

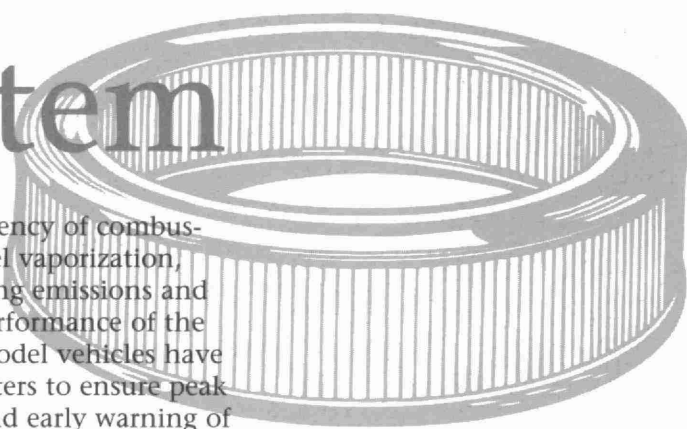
pollution control system

Your car's

There are a number of pollution control devices in your car or truck. If the vehicle is well maintained these devices increase fuel efficiency and reduce air pollutants that lead to smog. Properly operating pollution control technologies also prevent engine corrosion and wear.

These design features recirculate emissions through the engine for more complete combustion,

maximize efficiency of combustion, reduce fuel vaporization, reduce remaining emissions and monitor the performance of the vehicle. Late model vehicles have built-in computers to ensure peak performance and early warning of mechanical failures. Proper operation and maintenance is critical to these design features.



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For more Information

For other ministry publications and information contact:

Ministry of Environment and Energy
Public Information Centre
(416) 325-4000 or
toll-free 1-800-565-4923
Internet: <http://www.ene.gov.on.ca>

Other organizations are also involved in educating the public on smog and other environmental issues:

Environment Canada
1-800-668-6767

Toronto Healthy City Office
(416) 392-0099

Ontario Lung Association
(416) 864-9911

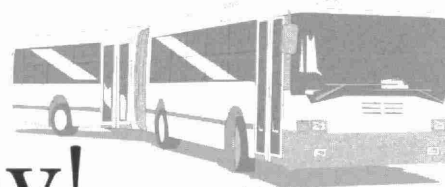
Pollution Probe
(416) 926-1907

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there is a better way!



- Try car pooling or van pooling to work. It saves money and the hassle of always doing the driving.
- Try walking or cycling short distances whenever possible. You will increase your physical fitness and reduce fuel use and wear and tear on your car.
- Where feasible, use public transit. It's often just as cheap and just as fast as driving your car, and can be more pleasant and relaxing.



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Driving Clean

(cuts smog

& saves you money)



Ontario

Ministry of Environment and Energy

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A car travelling an average of 16,000 kilometres a year can produce more than six tonnes of wastes and pollutants annually, including more than three times its weight in carbon dioxide emissions. It also produces other contaminants such as waste oil and anti-freeze.

Particulates from 2.5 to 10 microns in diameter are easily inhaled and tend to collect in the upper portion of the respiratory system affecting the bronchial tubes, nose and throat. Those smaller than 2.5 microns can go deeper into the lungs. Particulates less than 10 microns in diameter generally originate as wind-blown dust from roads, construction sites and agricultural areas. The smaller particulates are emitted directly into the air by diesel and gasoline engines, fuel combustion, power plants and a range of industries.

What is Driving Clean?

It's not just about driving safely and following the rules of the road. Driving clean means keeping your car or truck well tuned and economizing on fuel use. Vehicles that get regular tune-ups and are in good working order use less gas and spew fewer pollutants into the air.

The tailpipe exhaust from the vehicles we drive contains many different pollutants, including carbon dioxide, a greenhouse gas linked to global warming, and other toxic chemicals that are hazardous to health. It also contains pollutants that cause smog, one of our most serious and visible air pollution problems.

Smog pollutants have been linked to the incidence of allergies, asthma, chronic bronchitis and other respiratory and heart ailments, even premature deaths.

Cars & Air pollution

You see it as a brownish-yellow haze over an urban skyline, usually during the warmer months. Smog pollutants come from many different sources, including cars and trucks, manufacturing plants and our home furnaces.

Although smog contains a mixture of contaminants, the most serious components are ground-level ozone and nearly microscopic particles that can enter our lungs. Ground-level ozone is formed from two primary pollutants, nitrogen oxides (NOx) and volatile organic compounds (VOCs), mix in the presence of heat and sunlight. In Ontario, more than half the nitrogen oxides and one third of the volatile organic compounds come from car and truck exhaust.

They are also known to harm crops, vegetation and wildlife, corrode materials and damage buildings and property.

Much has already been done to make vehicles and fuels cleaner. Vehicle manufacturers are constantly coming up with cleaner models. But we can also do our part by ensuring our vehicles get regular checkups, and by making the routine repairs necessary to obtain the benefits of cleaner designs.

Driving clean not only helps the environment, it's also kind on the pocket book. You can save an average of \$90 in fuel cost a year by keeping your car well tuned.

When feasible, you might also consider other transportation alternatives such as public transit, walking and cycling.

But when we need to drive our cars and trucks, we can make a real difference by driving clean.

If all drivers maintained their cars regularly, together we could reduce nitrogen oxides by 12 per cent and volatile organic compounds by 30 per cent. Ontario has set a goal of reducing these two pollutants by 45 per cent from 1990 levels by the year 2015. By driving clean, we could achieve this goal even sooner.

Particulates are another key component of smog. These tiny, chemical-coated particles are spewed directly into the air by diesel and gasoline engines. Easily inhaled, particulates can travel to the deepest part of the respiratory tract and cause serious health problems in some individuals.

Climate change

Vehicle emissions of carbon dioxide have been linked to global warming or climate change. Concentrations of carbon dioxide have increased significantly in the 20th century. Twenty-one per cent of these emissions come from passenger vehicles such as cars, small trucks and vans.

If we continue at the present rate, there is fear that our climate could change dramatically during the next century. This could result in more frequent and severe storms, long periods of drought and conditions that change the types of crops and vegetation we can grow.

Smog & your health

Smog can be irritating to the eyes, nose and throat after only a few hours of exposure. Some people may start to cough or have difficulty breathing.

It's best to avoid outdoor exercise during the afternoon or in the early evening when smog is usually at its peak.

Long-term exposure to smog at low levels can harm lungs and a person's ability to resist disease. Children, the elderly, asthmatics and people who suffer other chronic lung and heart ailments are most susceptible to the effects of smog.

CAR facts

Ontario has six million vehicles, almost half the nation's total. The Greater Toronto Area, with its high concentration of industry and denser population, is home to three million.

By 2005, the number of vehicles on Ontario roads is expected to rise to seven million. The trend to living in outlying communities and driving to work is expected to increase long-distance travel from 91 billion kilometres a year in 1995 to 140 billion by 2020.

Even with the cleaner, more fuel-efficient vehicles and new tailpipe emission standards, automobile emissions are expected to increase by about six per cent above 1990 levels by 2005 due to the increased vehicle miles travelled.

No boundaries

Because the pollutants that form smog can be transported great distances in the air, smog can occur anywhere—in urban and rural areas alike. At least half of Ontario's smog problem is caused by pollutants drifting from the United States. We have begun negotiations with our neighbors, but we need to clean up our own act before we can ask others to clean up theirs.

A recent Health Canada study showed that six per cent of respiratory admissions in Ontario hospitals during the summer months can be attributed to ozone and sulphate levels, with the largest impact on infants (15 per cent). Other studies have shown similar and even stronger effects.

A provincial pilot project in Mississauga found that about 20 per cent of cars tested did not meet minimum emissions standards. Technicians found that one poorly-tuned vehicle can emit pollutants equivalent to 20 well-tuned cars.



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Driving Clean is easy

Making smart choices about how we drive our vehicles, especially during periods of high smog levels, can make a big difference to the air we breathe.



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- ✓ Keep your car tuned up by following the maintenance recommendations in the owner's manual. A poorly tuned engine can suck up to 10 per cent more fuel. The more fuel we burn, the more we pollute.
- ✓ Plan your activities and combine errands to reduce the number of times you cold start your vehicle. Linking trips can also save you money on gas.
- ✓ If possible, turn off the engine when staying in the same spot for more than a minute. Excessive idling pollutes and wastes fuel. Warm up your car for no more than 30 seconds, even in cold weather.
- ✓ Drive consistently and at moderate speeds. The best fuel economy for most vehicles is under 90 kilometres an hour.
- ✓ To reduce fuel consumption and wind resistance on the highway, try rolling up the windows and opening the car vents for a breath of fresh air.
- ✓ Tire drag due to under-inflation increases fuel consumption. Tires should be checked regularly.
- ✓ Avoid unnecessary extra weight in the trunk. The heavier the car, the more fuel it burns.
- ✓ Driving with extremely low fuel levels is hard on your car and increases tailpipe emissions.
- ✓ If your vehicle has air conditioning, try using it only for long-distance travel and ensure that the system is working properly. The Ministry of Environment and Energy has two booklets on how to maintain the air conditioning system in your car (and your home). To obtain a copy, call the ministry's Public Information Centre.

The average price tag for owning and operating a car in 1995 was \$9,000. That's an investment worth protecting. By keeping your vehicle well-tuned, you can reduce your operating costs and extend the life of your car or truck.

